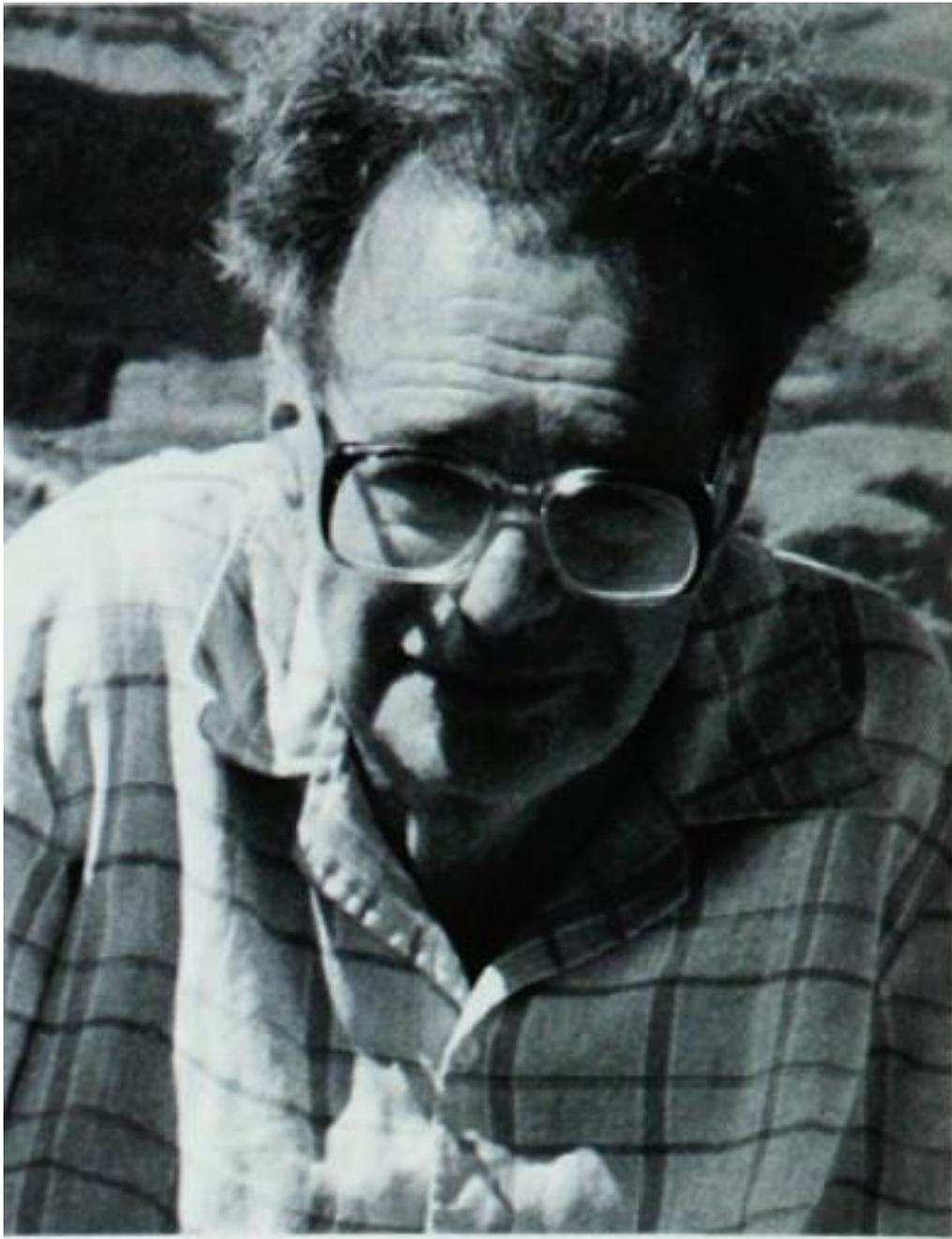


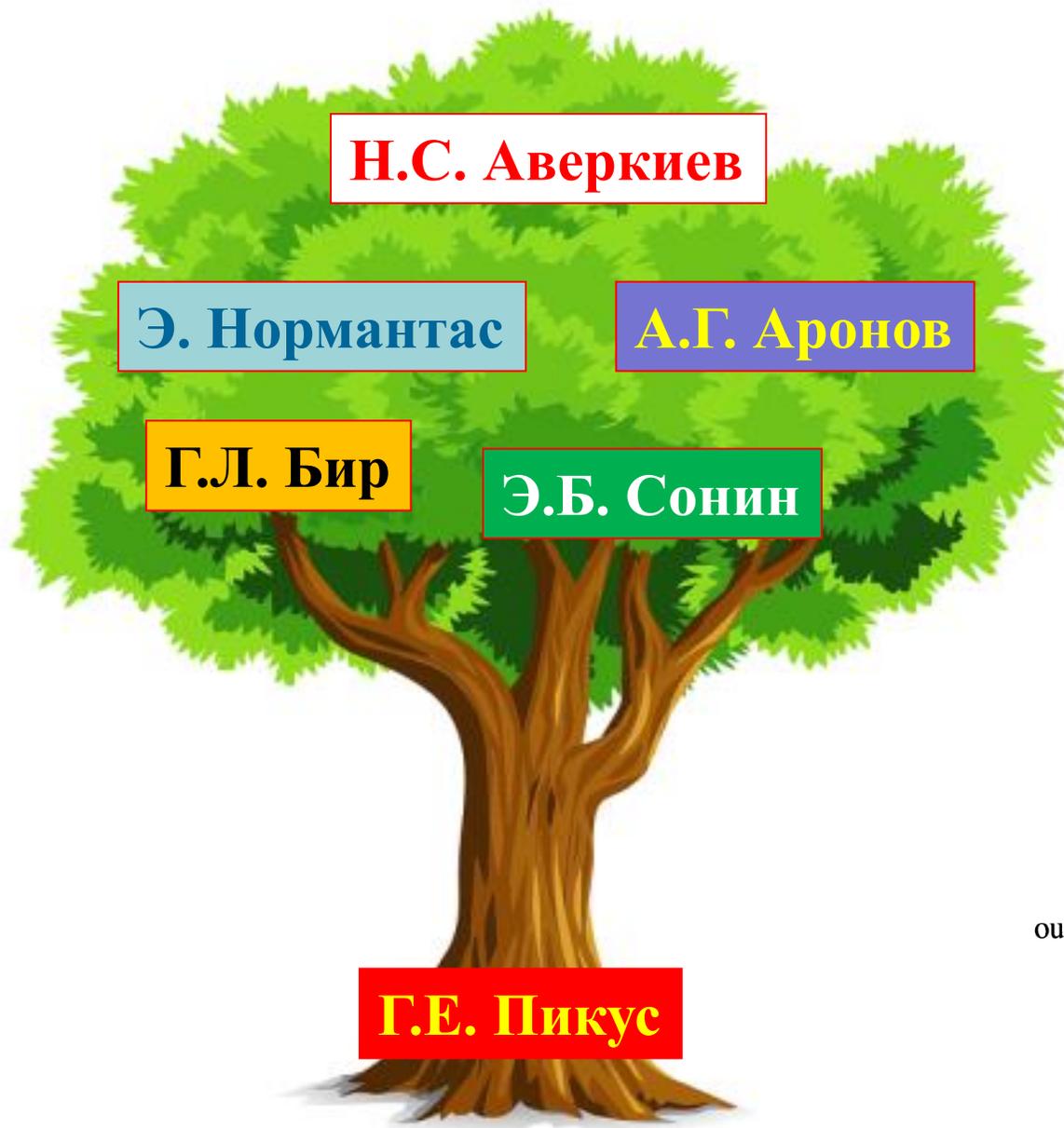


**Григорий Евгеньевич Пикус,  
его ученики, ученики учеников и т.д.**

**100**



07.05.1923–12.04.1998



**Н.С. Аверкиев**

**Э. Нормантас**

**А.Г. Аронов**

**Г.Л. Бир**

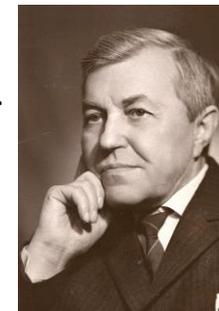
**Э.Б. Сонин**

**Г.Е. Пикус**

In Memoriam  
our teacher, Professor

*A.I. Anselm*

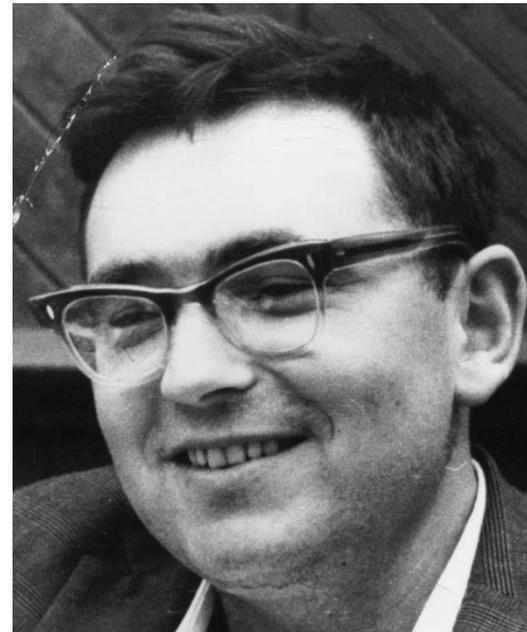
1905–1988



(Я.И. Френкель, В.А. Фок)

# Гамильтониан Бира-Пикуса

$$\Delta\mathcal{H} = \left(a + \frac{5}{4}b\right) \text{Sp}\{\hat{\varepsilon}\} - b \sum_{\alpha} J_{\alpha}^2 \varepsilon_{\alpha\alpha} - \frac{d}{\sqrt{3}} \sum_{\alpha \neq \beta} \{J_{\alpha} J_{\beta}\} \varepsilon_{\alpha\beta}$$



Г.Л. Бир, **Э. Нормантас**, Г.Е. Пикус. Гальваномагнитные эффекты в полупроводниках с вырожденными зонами. ФТТ, 1962, т. 4, 1180-1195.

**Э. Нормантас**, Г.Е.Пикус. Термомагнитные эффекты в полупроводниках с вырожденным зонами. ФТТ, 1962, т. 4, 2692-2707.

1985            *Ф И З И К А Т В Е Р Д О Г О Т Е Л А*            *Том 27, в. 10*

**ЭФФЕКТ УВЛЕЧЕНИЯ ПРИ ОТРАЖЕНИИ СВЕТА  
ОТ ПОВЕРХНОСТИ**

*Э. Нормантас, Г. Е. Пикус*

*Journal of Applied Physics 59, 1212–1215 (1986)*

**Diffusion coefficient of holes in silicon by Monte Carlo simulation**

Lino Reggiani and Rossella Brunetti

*Dipartimento di Fisica e Centro Interuniversitario di Struttura della Materia, Università di Modena, Via Campi 213/A, 41100 Modena, Italy*

Edmundas Normantas

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(Received 9 April 1985; accepted for publication 13 August 1985)

Министр образования и науки Литвы

SOVIET PHYSICS JETP

VOLUME 22, NUMBER 6

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*INDIRECT OPTICAL TRANSITIONS IN CROSSED ELECTRIC AND MAGNETIC FIELDS*

A. G. ARONOV and G. E. PIKUS

Semiconductors Institute, Academy of Sciences, U.S.S.R.

Submitted to JETP editor July 6, 1965

J. Exptl. Theoret. Phys. (U.S.S.R.) **49**, 1904-1912 (December, 1965)

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VOLUME 24, NUMBER 1

JANUARY, 1967

*TUNNEL CURRENT IN A TRANSVERSE MAGNETIC FIELD*

A. G. ARONOV and G. E. PIKUS

Institute of Semiconductors, Academy of Sciences, U.S.S.R.

Submitted to JETP editor February 4, 1966

J. Exptl. Theoret. Phys. (U.S.S.R.) **51**, 281-295 (July, 1966)

<http://www.ioffe.ru/coherent/index.html/Coherent/Ivchenko.html>



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Мойжес Б.Я., Пикус Г.Е., Сонин Э.Б., Юрьев В.Г.*  
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(1962 - 1973)

Present position: Professor (Emeritus),  
Racah Institute of Physics, Hebrew  
University of Jerusalem, Israel.

*Письма в ЖЭТФ, том 34, вып.1, стр. 28 – 31*

*5 июля 1981 г.*

**ЭЛЕКТРОН-ЭЛЕКТРОННЫЙ ОБМЕН  
В МНОГОДОЛИННЫХ ПОЛУПРОВОДНИКАХ  
И ТОНКАЯ СТРУКТУРА МНОГОЭКЦИТОННЫХ КОМПЛЕКСОВ В КРЕМНИИ**

*Г.Е.Пикус, Н.С.Аверкиев*

*ФТП, том 21, вып. 8, 1987*

**ПОВЕРХНОСТНЫЙ ЭКЦИТОН В МДП СТРУКТУРАХ**

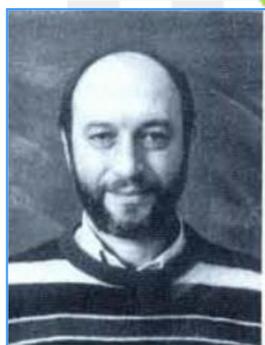
**Аверкиев Н. С., Пикус Г. Е.**



**А.Д. Мирлин**



**А.Ю. Зюзин**



**Б.З. Спивак**

**Б.Л. Альтшулер**



**А.С. Иоселевич**

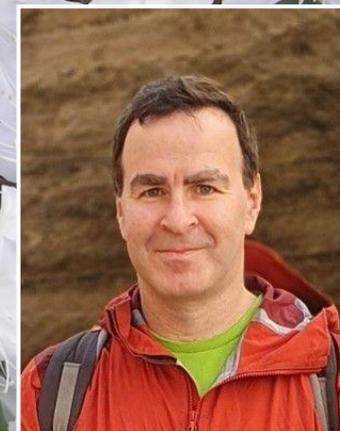
**Е.Л. Ивченко**



**А.Г. Аронов**

**Г.Е. Пикус**

# УЧЕНИКИ УЧЕНИКОВ



Сектор теории оптических и электрических явлений в полупроводниках

С. Арифжанов, Л. Такунов, Н. Юлдашев,  
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А. Каминский, А. Несвижский, А. Киселев,  
А. Кавокин, С. Гупалов



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**А.Г. Аронов**

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Александр Юрьевич Зюзин, зав. сектором  
теории полупроводников и диэлектриков



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Александрович



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Александрович



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Research Unit Chair,  
Karlsruhe Institute of Technology



**А.Г. АРОНОВ**

**Students and postdocs:  
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Dmitrii Shapiro, Michael Sonner**



Ю.Б. Лянда-Геллер  
Purdue University



J. Purdue



George Simion, Jingcheng Liang,  
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of the Quantum Optoelectronics  
and Nanophotonics group



**Fabrice Laussy**



**А.Г. Аронов**

### GRIGORY EZEKIELEVICH PIKUS

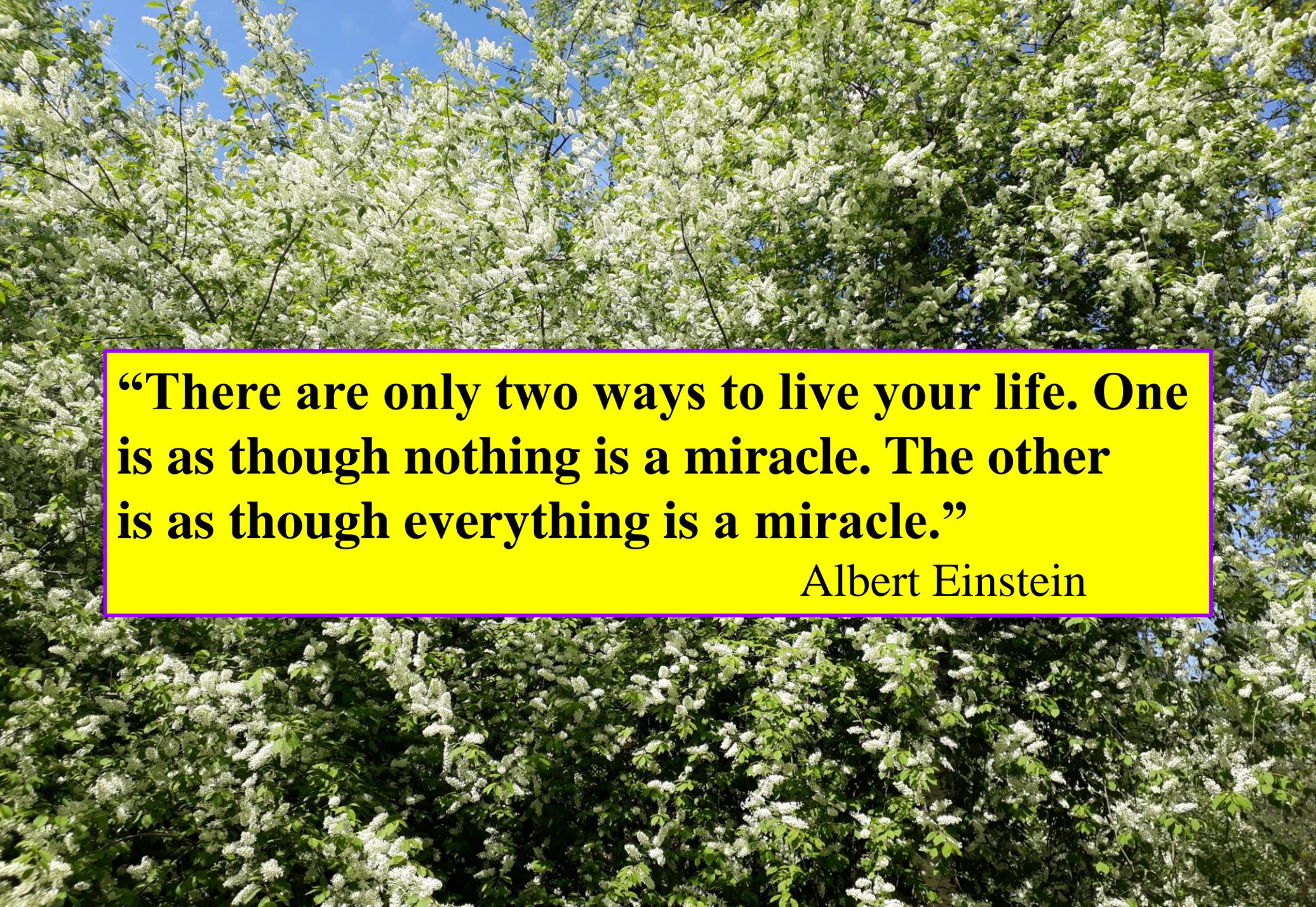
Germany's invasion of the Soviet Union in June 1941 interrupted Grigory's education for five years. Having joined the Red Army as a volunteer, Grigory fought in battles from Leningrad to Austria and received high military honors for his service and courage.

In 1947, he resumed his education at Leningrad Politechnical University and graduated in 1951 with a master's degree in physics. After graduation, he had to work at an electronics factory in the Siberian city of Novosibirsk. Only in August 1954, under Nikita Khrushchev's more liberal rule, could he return to Leningrad and start working at the Institute of Semiconductors, which was later incorporated into the A. F. Ioffe Physical-Technical Institute.

He remained a member of the Ioffe Institute for the rest of his life. There, he earned his PhD in physics in 1955 and his second DSc, also in physics, in 1964.

Grigory began his scientific career at the time when the theory of semiconductors developed into a branch of theoretical physics. The symmetry approach to solid-state physics, based on group-theoretical methods, became his lifelong passion. In the 1960s, he studied Hamiltonians and response functions to find new phenomena and properties that result solely from the symmetry of the problem. At the same time, he generalized the method of invariants to derive electron Hamiltonians in different points of the Brillouin zone, in external fields, under strain and other conditions. The linear-in-strain Hamiltonian for the degenerate valence band in semiconductors with diamond and zincblende lattices is known as the Bir-Pikus Hamiltonian.

Grigory started several new fields in the physics of semiconductors, the most well-known being the theories of strain-induced effects (1962), tunnel-

A photograph of a large tree in full bloom, with numerous white flowers and green leaves. The sky is visible through the branches, appearing as a clear blue. The tree's branches are thick and covered in clusters of small, white blossoms.

**“There are only two ways to live your life. One is as though nothing is a miracle. The other is as though everything is a miracle.”**

**Albert Einstein**